REMARKS

This Amendment and Response is in timely response to the Office Action of July 13, 2009.

The Action indicated that claims 1-78 were pending and that claims 1-74 were allowed. The allowance of claims 1-74 is acknowledged with appreciation.

By this amendment Applicant has amended claims 75 and 77 and added new claims 79-80. Claims 75 and 77 are amended to specify that the determined outcome "is a core outcome with respect to the received bids, said core outcome having an implied profit allocation that is feasible for the coalition of the whole and unblocked by any coalition". This subject matter is supported in the Specification at pages 62-64 and in Figure 16.

New claims 79 and 80 are directed to a computer readable medium storing a sequence of instructions which, when executed, implements a program corresponding to the method claims. The computer readable medium and its content is described in the application, see Figures 1 and 2, the several flow diagrams in the drawings and the accompanying specification.

Claims 75-78 are rejected as anticipated by the Bykowsky reference (2002/0013757). At page 3 the rejection alleges that the "means for processing" limitation is anticipated by paragraph 71 of the reference. The rejection also alleges that reference teaches that a determined outcome is a bidder-optimal core outcome with respect to the received bids" relying on paragraph 153 of the reference. For reasons expressed hereinafter Applicant submits that Bykowsky does not expressly or inherently describe the subject matter of the claims as amended wherefore reconsideration of the rejection and allowance of the rejected claims 75-78 and the new computer readable medium claims 79 and 80 are solicited.

As the Federal Circuit said in *Rowe v. Dror,* 112 F. 3rd, 473, 42 USPQ 2nd 1550 (Fed. Cir. 1997) the "prior art reference anticipates a claim only if the reference discloses, either expressly or inherently, every limitation of the claim". As set forth below Bykowsky does not even come close to the claimed subject matter.

Claim 75 as amended specifies "means for processing the received bids" and the processing means is further defined as determining an outcome which "is a core outcome with respect to the received bids, said core outcome having an implied profit allocation that is feasible for the coalition of the whole and unblocked by any coalition". Similarly, claim 77 calls for processing the received bids to determine an outcome. The claim goes on to specify that "the determined outcome is a core outcome with respect to the received bids, said core outcome having an implied profit allocation that is feasible for the coalition of the whole and unblocked by any coalition".

The statement of the rejection points to paragraphs 71 and 153 of the reference as corresponding to these recitations. It is apparent that neither in the cited paragraphs, nor in any other place in the text, does the reference describe a "core outcome having an implied profit allocation that is feasible for the coalition of the whole and unblocked by any coalition". Clearly, the reference does not expressly describe the claimed subject matter.

The reference describes a system which accepts package bids and determines an outcome that allocates items so as to maximize the "revealed gains" from the trades (paragraph 71) and determines payments so as to establish a "uniform price" as much as possible (paragraph 61 and 139, see also paragraphs 68 and 69). The two specific passages that show the reference describes establishing, as much as possible, a uniform price are

"Under the system and method of the present invention, transaction prices are calculated in a manner that attempts to establish a uniform price to all buyers that acquire audience items in the same supply unit (e.g. same block of continuous seconds of advertising time) offered for sale". (paragraph 61)

"The prices calculated must satisfy two criteria; successful buyers must pay no more than they bid while successful sellers must receive no less than they ask, and the total amount that buyers pay must balance the total amount that sellers receive..... Using the information generated by both solutions, the following optimization computes a set of competitive prices if it exists. Otherwise, it computes a set of prices that meet the two criteria above, and is, by the metric Δ, as close to equilibrium pricing as possible" (paragraph 139).

Applicant draws two conclusions from the foregoing summary of the statements from the reference as well as the rest of the text of the reference:

1.   There is no express text in the reference which refers to determining "a core outcome with respect to the received bids, said core outcome having an implied profit allocation that is feasible for the coalition of the whole and unblocked by any coalition" as is claimed.

2.   While the reference makes certain general statements about the goal of the processing and the procedures to be followed, it fails to set forth an algorithm, or indeed any specific description of the processing.

Applicant will now demonstrate, by simple examples, that the general goals set forth in the reference do not inherently produce a result as claimed. In other words, by no stretch of the imagination would a person following the prescriptions set down in the reference produce the result required by even the broadest claim in this application.

First we will show that profit allocations implied by a uniform price (as described in the Bykowsky reference) are not necessarily elements of the core. This is explained in the following example which follows the procedure of the reference. Assume that there are two identical items offered by one seller, and there are three buyers who submit bids for the items:

-- Seller 1 offers to sell two items at a total price of 0.
-- Buyer 1 submits a bid to purchase two items at a total price of 12.
-- Buyer 2 submits a bid to purchase one item at a price of 10.
-- Buyer 3 submits a bid to purchase one item at a price of 5.

As described in the reference the auctioneer would determine an outcome that allocates items so as to maximize the gains from trade (para. 71). Consequently, the auctioneer will have Seller 1 sell two items; one of the items is allocated to Buyer 2 and one of the items is allocated to Buyer

3. Observe that this creates gains from trade of 15 = 10 + 5. Note that this yields greater gains than allocating both goods to Buyer 1 -- which would create gains from trade of only 12.

In connection with pricing, as described in the reference, the auctioneer attempts to calculate prices that are uniform, and determined so "successful buyers must pay no more than they bid while successful sellers must receive no less than they ask." (para. 139). We note that any uniform price in the interval between 0 and 5 works: the price per unit must be at least 0 so that Seller 1 receives no less than he asks; and the price per unit must be at most 5 so that Buyer 3 pays no more than his bid. The outcome with a uniform price between 0 and 5 is the solution which the procedures in the reference will achieve -- see also paragraphs 68 and 69.

However, this outcome (any uniform price in the interval between 0 and 5) is **not an element of the core**. To be in the core, the profit allocation must be "feasible for the coalition of the whole and unblocked by any coalition." (claims 75 and 77, specification p. 63). However, the outcome with any uniform price in the interval between 0 and 5 can be blocked by the coalition of {Seller 1 , Buyer 1} -- this coalition can block the original allocation by allocating the two items to Buyer 1 and having Buyer 1 pay a total price of 11. Buyer 1 benefits from this new allocation, as he receives the two items (which he bid for at 12, but pays only 11). Seller 1 also benefits from this new allocation, as he receives 11 in payment instead of receiving 10.

Moreover, in this example, the outcome with any uniform price in the interval [0,5] (i.e., between 0 and 5) is **not a bidder-optimal core allocation (**as is specified in the dependent claims). To be a bidder-optimal core allocation, the sum of the price paid by Buyer 2 and the price paid by Buyer 3 must be 12 -- this is the minimum total payment by buyers so that the coalition of {Seller 1 , Buyer 1} cannot block the allocation. In addition, the price paid by Buyer 2 must be no greater than 10 and the price paid by Buyer 3 must be no greater than 5. One example of a bidder-optimal core allocation for this example is that Buyer 2 receives one item and pays a price of 8, while Buyer 3 receives one item and pays a price of 4. Indeed, let p_2 denote the price paid by Buyer 2 and let p_3 denote the price paid by Buyer 3. The following inequalities must be satisfied by any core outcome:

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$p_2 < 10$

$p_3 < 5$

$p_2 + p_3 \geq 12$ (with p + p =12 in any bidder-optimal outcome)

Observe that these inequalities have no solution in uniform prices ($p_2 = p_3$) and therefore in this example **no core allocation or bidder-optimal core allocation has a uniform price**.

Second, contrary to the Office Action Para. 153 of the reference does **not** describe a bidder-optimal outcome. Rather, the paragraph merely further explains the description of para. 151, in which successful buyers must pay no more than they bid while successful sellers must receive no less than they ask, the total amount that buyers pay equals the total amount that sellers receive, and the pricing is as close to a uniform price as possible. Pricing that is as close as possible to uniform pricing is **not** bidder-optimal. Consider the following: Suppose that there are two identical items offered by one seller, and there are three buyers who submit bids for the items:

   -- Seller 1 offers two items at a total price of 0

   -- Buyer 1 bids 15 for one item and bids 30 for two items.

   -- Buyer 2 bids 12 for one item and obtains no additional value from a second item, in
   other words Buyer 2 bids 12 for one item or two.

   -- Buyer 3 bids 6 for one item and obtains no additional value from a second item, in
   other words Buyer 3 bids 6 for one item or two.

In this example, Buyer 1 would win both items. Using the procedures of the reference, a uniform-price outcome at a price per unit of at least 12 would be determined. Thus, Buyer 1 would pay a total of at least 24. However, in the bidder-optimal core outcome, Buyer 1 is charged 12 for one item (Buyer 2's bid) but is charged only 6 for the second item (Buyer 3's bid). Since Buyer 1 would pay a total of 18, it is easy to see why this is better for the buyer than paying a total of at least 24.

These examples establish that to the extent the reference describes any particular procedures, those procedures are neither:

- a core outcome with respect to the received bids, said core outcome having an implied profit allocation that is feasible for the coalition of the whole and unblocked by any coalition, as recited in the independent claims 75, 77 and 79, nor

- a bidder-optimal core allocation, as recited in the dependent claims 76, 78 and 80.

Applicant requests reconsideration and allowance of the application for the foregoing reasons.

The Office is authorized to charge any necessary fees to Deposit Account No. 22-0185.

Dated: October 13, 2009   Respectfully submitted,

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